Abstract

A system for providing high frequency data communications in a satellite-based communications network includes a plurality of communications satellites each having uplink and downlink antennas capable of receiving and transmitting a plurality of signals. Each of said satellites have a communication control circuit. At least one of said satellites is reconfigurable. The reconfigurable satellite has a programmable frequency synthesizer coupled to the communications control circuit. A controller is located on the satellite and is coupled to the communications control circuit. The controller controls a frequency reconfiguration of the communications control circuit through the programmable frequency synthesizer.